

III. Amendments to the Drawings

The examiner objected to Figure 1 for not being designated as prior art. A replacement sheet 1 has been provided bearing an appropriate legend designating Figure 1 as prior art.

The examiner objected to Figure 1, Figure 2, and Figure 3 because the lead lines for reference numerals 2, 4, and 18 did not touch the parts to which they refer. Each of these call-out numbers refer to a general region of the airbag. An arrowhead has been added to lead lines 2, 4 and 18 to indicate reference to a general region. Replacement sheets 1 and 2 are provided making appropriate corrections.

The examiner objected to Figure 4 as not differentiating tabs 14 as extending through apertures in sleeve 44. The examiner further objected to the drawings as not showing the features of claim 16, specifically locating parts of the air-bag to extend through apertures formed in the sleeve or housing such that the parts protrude from the sleeve or housing. Replacement sheet 3 is provided revising Figure 4 to illustrate apertures 46 in sleeve 44.

IV. Remarks

Objections to the Drawings

Applicants' corrected and revised drawings address each of the examiner's objections. As amended, all of the drawings are now in order.

Objections to the Specification

The examiner objected to applicants' use of the term "gusset" in the abstract, specification and claims, averring that the dictionary definition of "gusset" is a triangular member serving as a reinforcement. Applicants respectfully traverse this objection.

A "gusset" is "a usually diamond-shaped or triangular insert in a seam (as of a sleeve, pocketbook, or shoe upper) to provide expansion or reinforcement." Webster's Collegiate Dictionary (Merriam-Webster, Inc., 10th ed., 1999). According to Webster's definition, it is not necessary that the fabric be triangular in shape. More important is that the fabric be intended to provide for expansion or reinforcement. Applicants' use of the term "gusset" is congruent with Webster's definition.

When Applicants' gas inlet throat is repositioned downwards, as shown in Figure 3 and Figure 6, excess fabric collects and wrinkles in region "A" shown in Figure 1. Upon sudden discharge of gas into this portion of the airbag, this wrinkled, excess fabric expands, or elongates, thereby permitting the load caused by the gas discharge to be distributed across a greater area of material. See paragraph [0053].

Applicants' "gusset" is a region of the airbag that elongates and expands to distribute the loading forces across more warp and weft strands of fabric. This is true both for the first embodiment of Applicants' apparatus illustrated in Figures 2-3, as well as the second embodiment illustrated in Figures 5-6.

Applicants have clarified the meaning of the term "gusset" in amended paragraph [0047] to make clear that it refers to the wrinkled region of excess fabric formed along a lower region of the gas inlet throat where it joins the rectangular main inflatable region of the airbag. Upon deployment, this wrinkled region of the airbag expands, thereby causing the gas inlet throat upon inflation to join the main inflatable region of the airbag at an oblique angle. (In the case of the second embodiment, the upper arm 60 of the gas inlet throat would be repositioned at an oblique angle.)

The examiner objected to the last two lines of paragraph [0048] "sleeve 44 or housing." Applicants have amended paragraph [0048] in two places to indicate that the sleeve or housing are both designated by callout reference 44.

The examiner objected to the spelling of "minimise" in paragraph [0054]. The misspelling has been corrected.

Objections to the Claims

The examiner objected that Applicants' dependent claims were misordered. Applicants acknowledge their error. Applicants request that the patent office properly reorder their dependent claims upon issuance of the patent.

Claim Rejections - § 112

The examiner objected to claim 1 under 35 U.S.C. § 112, second paragraph in five respects.

First, the examiner rejected Applicants' use of the term "gusset" in the claims. Applicants respectfully traverse this rejection because "gusset" is appropriately used in a sense congruent with the understood meaning of the term. In any case, Applicants have amended the specification to more clearly explain the meaning of "gusset" as used in the claims. As amended, there is no ambiguity as to the meaning of "gusset."

Second, the examiner rejected claim 1 and claim 12 for lack of antecedent basis for "the junction." Applicants have amended claim 1 and claim 12 to provide the necessary antecedent basis, stating that the gas inlet throat is joined to the inflatable region, thereby making a "junction" an inherent part of the structure. See MPEP § 2173.05(e) ("Inherent components of elements recited have antecedent basis in the recitation of the components themselves.").

Third, the examiner rejected claim 3, line 2 because the meaning of a "cranked" inlet throat was unclear. Paragraphs [0008] and [0058] have been amended to clarify that "cranked" means sharply bent, i.e., where the two arms 59 and 60 of inlet throat 58 are within 30 degrees of orthogonal to one another. See also Figure 5 and Figure 6.

Fourth, the examiner rejected claim 9 for lack of antecedent basis for “the gas flow passage.” Applicants have amended claim 9 to provide the necessary antecedent language.

Fifth, the examiner objected to claim 12 for improper syntax for the word “defines.” Applicants have amended claim 12 to correct the improper grammar.

Claim Rejections - § 102

The examiner rejected claim 1 as being anticipated by Japanese Patent 6-227334 (“Japanese '344”). Applicants respectfully traverse this rejection.

Claim 1 does not read on Japanese '344. First, Japanese '344 has no gas inlet throat extending from the inflatable region. Rather, inflator 14 releases compressed gas directly into the inflatable airbag region without any throat inlet passage for air. Second, Japanese '344 does not disclose a gusset of excess fabric, as Applicants have defined the term, but something entirely unrelated: a second layer of “tenacious reinforced fabric” 12b covering the external surface of airbag fabric 12a, on the airbag side which faces the vehicle's windowpane. This reinforced layer of fabric is not “excess” because it is an entirely separate layer of protective fabric. Finally, even if fabric 12b could be construed as “excess,” it is distantly located well above inflator 12, upwards and external to the inflatable region of the airbag. Fabric 12b is not proximate to any junction between the inflatable region of the airbag and any gas inlet throat.

Claim Rejections - § 103

The examiner rejected claim 8 as being unpatentable over Japanese '344 in view of Wooley et al., US 5,149,130. Applicants respectfully traverse this rejection.

As discussed above, Japanese '344 does not disclose an inlet throat, but rather discharges compressed gas directly into the inflatable region of the airbag. As such, Japanese '344 has no relevance to Applicants' inventive concept, which is primarily concerned with load stresses that can tear the airbag in the inlet throat region of an airbag. Nothing in Wooley '130, either alone or in combination with Japanese '344, would teach or suggest to a person with ordinary skill in the art the novel concept of providing a gusset of excess fabric to enable the throat inlet to be obliquely angled with respect to gas flow passage region 28 of an airbag.

Conclusion

Applicants have addressed all objections raised by the examiner with respect to the deficiencies in the drawings, the specification, and the claims by replacement of the drawings and amendment. All objections to the claims and § 112 rejections have similarly been addressed through amendment. Applicants respectfully contend

that Japanese '344 is not relevant because it lacks a gas inlet throat, and that in any case it does not anticipate any inventive aspect of Applicants' invention. Claims 1-17 as amended are therefore currently in condition for allowance. Such action is earnestly solicited.

Respectfully submitted,

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Date

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Attachment: Replacement Sheet(s) of Drawings